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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER WANG, JIN CHENG				
ART UNIT 2628		PAPER NUMBER		
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/864,107

Applicant(s)

VAN LIERE, FILIPS

Examiner

JIN-CHENG WANG

Art Unit

2628

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 May 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 34-53 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 34-53 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date: _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 5/14/2009 has been entered. Claims 1-33 have been canceled. Claims 34-53 have been newly added. Claims 34-53 are pending in the application.

Response to Arguments

Applicant's arguments, filed May 14, 2009, with respect to claim 34 and similar claims have been considered but are not found persuasive in view of the ground(s) of rejection based on Echerer et al. U.S. Pat. No. 5,740,267 (hereinafter Echerer) in view of Fenster et al. U.S. Pat. No. 5,454,371 (hereinafter Fenster) in view of Wiedenhofer U.S. Patent No. 5,832,422 (Wiedenhofer).

Echerer discloses enabling the generation of the measurement graphics without activation of ACTION BARS or image fields, OR CONTROL PANELS since Echerer teaches using a mouse only without activating ACTION BARS or image fields, OR CONTROL PANELS. See e.g., column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35. Echerer teaches measuring the length of the two points, measuring an area encircled by at least three points and

measuring the angle between two lines formed by four points wherein the four points are specified as in column 21 for measuring the angle. In this setting, Echerer discloses at column 17-18 enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated using the pointer device to place points and identify the measurement graphic and thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated.

For the reasons discussed above, Echerer teaches using the pointer device to place points and identify the measurement graphic and thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated. Echerer discloses defining one or more sets of sequential graphic measuring/drawing modes by drawing the lines connecting any two points or measuring distances or by measuring areas, receiving a medical image, displaying the medical image on a display device, receiving a first user input that indicates a selected location/point using a mouse pointer device on the medical image and a selected set of sequential graphic drawing/measuring modes by mouse clicking, entering an initial mode of the selected set of sequential graphic modes by entering an initial point and executing a set of predefined graphic drawing/measuring operations based on the initial mode while executing a set of predefined measurement operations based on the initial entered point. Echerer teaches performing a continuous repetition process of receiving a next sequential user input that indicates a next selected location/point on the medical image by the mouse clicking, entering a next sequential measuring/drawing mode for drawing lengths or measuring lengths/areas/angles and executing a set of predefined drawing operations for measuring lengths/distances/areas/angles and drawing the lines based on the next sequential

measuring/drawing mode, if the next sequential user input is not a terminating input wherein the terminating input may be the entering of another measurement mode, or the closing of the window, or mouse clicking of a third point while measuring a distance between the first point and the second point. Echerer thus implicitly discloses terminating the repetition process if the next sequential user input is a terminating input such as another measurement mode.

Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer teaches using the mouse operating on an image displayed on the monitor without operating those menus displayed on another monitor. Although a menu or menus can be present on another monitor, menus may not be used at all with the mouse user interface combined with the medical image in at least one session of the graphical user interface in Echerer. Echerer does not have to move the cursor outside the medical image in order to perform the claim invention set forth in the claims 1 and 10. That is, Echerer does not have to employ the menu outside of the monitor or outside of the medical image. Echerer’s user-cursor-medical image interaction is enough to provide a sequence of measurement graphics of the same type without the use of menu. Echerer teaches in Figs. 3-5 that the medical image and measurement graphics is measured, drawn and displayed without the menus, toolbars and control panels being operated/displayed and in column 10, lines 1-10 the medical image is solely displayed on a monitor without the presence of menus, toolbars and control panels (See also Figs. 3-5).

For example, with regards to the manual analysis, Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer teaches in column 10, lines 1-10 displaying an image solely in one monitor

without the presence of menus, toolbars and control panels on said graphical interface on the same monitor because buttons, slides and adjustment tools are displayed on another monitor, or an external monitor that has nothing to do with the monitor displaying the medical image.

Echerer teaches in column 10, lines 1-10 displaying a MEDICAL image solely in one monitor. See Figs. 1, 4-5, 10A-11 of Echerer. Echerer teaches displaying the medical image essentially unobstructed in a substantial portion of a graphical interface wherein the user can freely manipulate the pointer/mouse to select points for measuring angles. This is because the type of measurement graphic (singular) can be specified in advance by an application developer or by default, as opposed to be specified by a user wherein the claim limitation requires. For example, when the angle measurement is specified by default, a first angle for points (A, B) and (B, C), a second angle for points (D, E) and (E, F) and a third angle for points (G, H) and points (H, I) can be measured by clicking on the buttons of the mouse on the points on the medical image. Generating an angle measurement in the process also generates a set of different measurement graphics. Moreover, three measurement graphics may also refer to the line connecting points A and B, the line connecting points B and C and the angle quantity for the same angle measurement (See Figs. 3-5) wherein only one angle measurement generates three measurement graphics as claimed.

Echerer discloses enabling the generation of the measurement graphics of the same type at least in a default setting wherein the default setting provides the angle measurement. For example, by continuously generating three different measurement graphics including measuring a first angle by clicking on the points A, B and then points B, C and measuring second angle by clicking on the points D, E and then points E, F and measuring a third angle by clicking on the

points G, H and H, I, the three different measurement graphics are continuously generated without engaging a “Measure Angle” button because the angle measurement is a default setting in at least one session of the graphics user interface.

Thus, in the above aspect of the invention, Echerer teaches using a mouse only *without engaging menus, toolbars or control panels in another monitor*. See e.g., column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35. Echerer teaches using the pointer device to place points without moving the cursor outside the medical image and without engaging a menu outside the monitor while enabling the generation of the measurement graphics because the system already knows the type of measurement graphic to be generated in the manual analysis.

Echerer’s generation of the at least three different measurement graphics (OF THE SAME TYPE) is performed at least through the manual analysis operating on at least one measurement type such as the angle measurement that may generate a plurality of measurement graphics as desired. Moreover, Echerer teaches using the pointer device to place points thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated.

Fenster discloses that the user can use the graphical input device such as a single button mouse to measure distances and areas of the three-dimensional image within the most recently moved image plane and the user simply needs to use the graphical input device 38 to indicate the two end points over which the distance is to be measured if the user wishes to measure a distance and the user must identify at least three points if an area is to be measured and the placement of

points on the image is done by moving a cursor and the display module 92 connects adjacent points by straight line segments and computes both the overall line length and the area bounded by the lines joining the points using an appropriate scale. **In this setting, only a mouse has been placed on the points of the image to measure a distance or an area without activation of menus, toolbars and control panels outside the medical image.** For the reasons discussed above, Fenster teaches using the pointer device to place points and identify the measurement graphic and thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated. Thus, Fenster discloses defining one or more sets of sequential graphic modes by clicking points, measuring distances or by measuring areas, receiving a medical image, displaying the medical image on a display device, receiving a first user input that indicates a selected location using a mouse pointer device on the medical image and a selected set of sequential graphic modes by clicking points, entering an initial mode of the selected set of sequential graphic modes by entering an initial point and executing a set of predefined graphic operations based on the initial mode while executing a set of predefined measurement operations based on the initial entered point. Fenster teaches performing a continuous repetition process of receiving a next sequential user input that indicates a next selected location/point on the medical image by the mouse clicking, entering a next sequential measuring/drawing mode for drawing lengths or measuring lengths/areas and executing a set of predefined drawing operations for measuring distances/areas and drawing the lines based on the next sequential point clicking and measuring/drawing mode, if the next sequential user input is not a terminating input (a third point clicking allows the area formed by the three points to be measured) wherein the terminating input may be the entering of another point, or switching to

another measurement mode, or the closing of the window, or mouse clicking of a third point while measuring a distance between the first point and the second point. Fenster thus implicitly discloses terminating the repetition process if the next sequential user input is a terminating input such as switching to another measurement mode.

When the pointer symbol is situated on the medical image, a measurement graphics is generated without actuation of one button of the mouse on menus, toolbars and control panels because the pointer symbol is situated on the medical image while the measurement graphics is generated. The pointer symbol is not situated on menus, toolbars and control panels when the pointer symbol is situated on the medical image. Therefore, the actuation of the at least one button of the mouse enables the generation of the plurality of different measurement graphics including measuring the distance of two points on the medical image and the area encircled by three points on the medical image without actuating at least a button of the mouse when the pointer symbol of the mouse is situated on menus, toolbars and control panels, i.e., when the pointer symbol is subsequently moved away from the medical image after the generation of the measurement graphics. Fenster discloses enabling the generation of the plurality of different measurement graphics including the measurement of distance between two points on the medical image and the measurement of area encircled by more than two points on the medical image based only upon actuation of at least one button of said mouse when said pointer symbol is situated on said medical image without clicking on the mouse, even when the pointer symbol is moved outside the medical image and placed on the menus, toolbars, and control panels outside the medical image after the measurement graphics is generated. Fenster discloses enabling the generation of the plurality of different measurement graphics including the measurement of

distance between two points on the medical image and the measurement of area encircled by more than two points on the medical image based only upon actuation of at least one button of said mouse when said pointer symbol is situated on said medical image without the actuation of the at least one button of the mouse when said pointer symbol is subsequently moved away from the medical image and placed on menus, toolbars, and control panels. Because the pointer symbol is placed on the medical image in the generation of the measurement graphics, the measurement graphics are generated without the movement of the pointer symbol outside of the medical image while the measurement graphics is generated. In conclusion, Fenster discloses the claim limitation of enabling the generation of the plurality of different measurement graphics based only upon actuation of said at least one button of said mouse when said pointer symbol is situated on said medical image without actuation of said at least one button of said mouse when said pointer symbol is situated on menus, toolbars, and control panels such that the measurement graphics are generated without movement of said pointer symbol outside of said medical image.

It needs to be shown whether Echerer *explicitly* discloses the claim limitation, “terminating the repetition process if the next sequential user input is a terminating input.” For the reasons given above, Echerer or Fenster at least implicitly discloses the claim limitation. Nevertheless, Wiedenhoefer explicitly discloses at column 18, lines 1-15 the claim limitation by pressing the right control button 8 to terminate the repetition process of the next sequential user input for measuring an angle. Wiedenhoefer discloses all other claim limitations set forth in the present claims.

One having the ordinary skill in the art would have been motivated to do this because it would have provided the measurement angle/distance/area by automatically recognizing the completion of entering all the necessary points for measuring the distance/angle/area (Wiedenhofer column 18).

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 34-44, 50 and 53 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claims 34-44:

Claims 34-44 are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. While the claims recite a series of steps or acts to be performed, a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing (Reference the May 15, 2008 memorandum issued by Deputy Commissioner for Patent Examining Policy, John J. Love, titled “Clarification of ‘Processes’ under 35 U.S.C. 101”). The instant claims neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process. The claim does not claim a *physical transformation* or a specific machine in the method steps. The claimed display device in the step

of displaying...on a display device is not sufficient to meet the requirement for a *specific* machine. The involvement of a general display device in the step of displaying is merely an insignificant extra-solution activity. Neither any specific machine nor the claimed display device is physically transformed to a different state or thing merely because the claimed method uses software implementing the method steps as evidenced in the claim 53. The mere recitation of a display device to collect data and/or to present data necessary for application of *the mental process* may not make the claim patentable subject matter. As *Comiskey* recognized, "the mere use of the machine to collect data necessary for application of the mental process may not make the claim patentable subject matter." *Comiskey*, 499 F.3d at 1380 (citing *In re Grams*, 888 F.2d 835, 839-840) (Fed. Cir. 1989). *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008). *In re Abele and Marshall*, 214 USPQ 682 (C.C.P.A. 1982), *Ex parte Halligan*, 89 USPQ2d 1355, U.S. Patent and Trademark Office Appeal No. 2008-1588. *Ex parte Jakobsson*, 84 USPQ2d 1511, U.S. Patent and Trademark Office Appeal No. 2006-2107, Decided April 16, 2007. *Ex parte Cornea-Hasegan*, 89 USPQ2d 1557 (Bd. Pat. App. & Int. 2009). *Ex parte Langemyr*, 89 USPQ2d 1988, U.S. Patent and Trademark Office Appeal No. 2008-1495. As *Ex Parte Langemyr* recognizes, "nominal or token recitations of structure in a claim and claims reciting incidental physical transformations do not convert an otherwise ineligible claim into an eligible one."

Moreover, claim 50 is directed to neither a "process" nor a "manufacture," but rather embrace and overlap two different statutory classes of invention set forth in 35 U.S.C. 101, which is drafted so as to set requirements for the statutory classes of invention in the alternative only. See, *Ex Parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990). See also, *MPEP*

2173.05(p).

Additionally, the claim 53, *inter alia*, recites "[a] tangible computer-readable medium that includes a computer program that when executed by a processor, causes the processor to". Limiting the claim to a computer readable medium does not add any practical limitation to the scope of the claim. Such a field-of-use limitation is insufficient to render an otherwise ineligible claim patent eligible. In essence applicant is preempting all substantial uses of the claimed abstract idea. Moreover, the claimed processor is general enough to cover a software processor. The claimed computer-readable medium is defined in the Specification to include "Internet". Computer programs claimed as computer listing per se, i.e., the description or expression of programs, are not physical things. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 50 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Moreover, claim 50 is directed to neither a "process" nor a "manufacture". See, Ex Parte Lyell, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990). See also, MPEP 2173.05(p).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 34-53 are rejected under 35 U.S.C. 103(a) as being unpatentable over Echerer et al. U.S. Pat. No. 5,740,267 (hereinafter Echerer) in view of Fenster et al. U.S. Pat. No. 5,454,371 (hereinafter Fenster), in view of Wiedenhoefer U.S. Patent No. 5,832,422 (Wiedenhoefer).

Re Claims 34, 45, and 53:

Echerer discloses enabling the generation of the measurement graphics without activation of ACTION BARS or image fields, OR CONTROL PANELS since Echerer teaches using a mouse only without activating ACTION BARS or image fields, OR CONTROL PANELS. See e.g., column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35. Echerer teaches measuring the length of the two points, measuring an area encircled by at least three points and measuring the angle between two lines formed by four points wherein the four points are specified as in column 21 for measuring the angle. In this setting, Echerer discloses at column 17-18 enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated using the pointer device to place points and identify the measurement graphic and thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated.

For the reasons discussed above, Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer teaches using the pointer device to place points and identify the measurement graphic and thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated. Echerer discloses defining one or more sets of sequential graphic measuring/drawing modes by drawing the lines connecting any two points or measuring distances or by measuring areas, receiving a medical image, displaying the medical image on a display device, receiving a first user input that indicates a selected location/point using a mouse pointer device on the medical image and a selected set of sequential graphic drawing/measuring modes by mouse clicking, entering an initial mode of the selected set of sequential graphic modes by entering an initial point and executing a set of predefined graphic drawing/measuring operations based on the initial mode while executing a set of predefined measurement operations based on the initial entered point. Echerer teaches performing a continuous repetition process of receiving a next sequential user input that indicates a next selected location/point on the medical image by the mouse clicking, entering a next sequential measuring/drawing mode for drawing lengths or measuring lengths/areas/angles and executing a set of predefined drawing operations for measuring distances/areas/angles and drawing the lines based on the next sequential measuring/drawing mode, if the next sequential user input is not a terminating input wherein the terminating input may be the switching to another measurement mode by soft controls including clicking a button (e.g., switching from by clicking a button for “Measure Distance” to “Measure Angle” on a keyboard). Echerer thus implicitly discloses terminating the repetition process if the

next sequential user input is a terminating input that allows the switching from one measurement mode to another measurement mode by soft controls.

Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer teaches using the mouse operating on an image displayed on the monitor without operating those menus displayed on another monitor. Although a menu or menus can be present on another monitor, menus may not be used at all with the mouse user interface combined with the medical image in at least one session of the graphical user interface. Echerer does not have to move the cursor outside the medical image while operating buttons to switch among the measurement modes. That is, Echerer does not have to employ the menu outside of the monitor or outside of the medical image. Echerer’s user-cursor-medical image interaction is enough to provide a sequence of measurement graphics without the use of menu. Echerer teaches in Figs. 3-5 that the medical image and measurement graphics is measured, drawn and displayed without the menus, toolbars and control panels being operated/displayed and in column 10, lines 1-10 the medical image is solely displayed on a monitor without the presence of menus, toolbars and control panels (See also Figs. 3-5).

For example, with regards to the manual analysis, Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer teaches in column 10, lines 1-10 displaying an image solely in one monitor without the presence of menus, toolbars and control panels on said graphical interface on the same monitor because buttons, slides and adjustment tools are displayed on another monitor, or an external monitor that has nothing to do with the monitor displaying the medical image.

Echerer teaches in column 10, lines 1-10 displaying a MEDICAL image solely in one monitor AND THEREBY ECHERER TEACHES DISPLAYING THE MEDICAL IMAGE, ESSENTIALLY UNOBSTUCTED, IN A SUBSTANTIAL PORTION OF A GRAPHICAL INTERFACE. See Figs. 1, 4-5, 10A-11 of Echerer. Echerer teaches displaying the medical image essentially unobstructed in a substantial portion of a graphical interface wherein the user can freely manipulate the pointer/mouse to select points for measuring angles. This is because the type of measurement graphic (singular) can be specified in advance by an application developer or by default, as opposed to be specified by a user wherein the claim limitation requires. For example, when the angle measurement is specified by default, a first angle for points (A, B) and (B, C), a second angle for points (D, E) and (E, F) and a third angle for points (G, H) and points (H, I) can be measured by clicking on the buttons of the mouse on the points on the medical image. Generating an angle measurement in the process also generates a set of different measurement graphics. Moreover, three measurement graphics may also refer to the line connecting points A and B, the line connecting points B and C and the angle quantity for the same angle measurement (See Figs. 3-5) wherein only one angle measurement generates three measurement graphics as claimed.

By continuously generating three different measurement graphics including measuring a first angle by clicking on the points A, B and then points B, C and measuring second angle by clicking on the points D, E and then points E, F and measuring a third angle by clicking on the points G, H and H, I, the three different measurement graphics are continuously generated without engaging a "Measure Angle" button because the angle measurement is a default setting in at least one session of the graphics user interface.

Thus, in the above aspect of the invention, Echerer teaches using a mouse only without engaging menus, toolbars or control panels in another monitor. See e.g., column 10, lines 1-10, column 12, lines 20-30; column 13, lines 25-50; column 15, lines 15-35. Echerer teaches using the pointer device to place points without moving the cursor outside the medical image and without engaging a menu outside the monitor while enabling the generation of the measurement graphics because the system already knows the type of measurement graphic to be generated in the manual analysis.

Echerer's generation of the at least three different measurement graphics is performed at least through the manual analysis operating on at least one measurement type such as the angle measurement that may generate a plurality of measurement graphics as desired. Moreover, Echerer teaches using the pointer device to place points thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated.

Fenster discloses that the user can use the graphical input device such as a single button mouse to measure distances and areas of the three-dimensional image within the most recently moved image plane and the user simply needs to use the graphical input device 38 to indicate the two end points over which the distance is to be measured if the user wishes to measure a distance and the user must identify at least three points if an area is to be measured and the placement of points on the image is done by moving a cursor and the display module 92 connects adjacent points by straight line segments and computes both the overall line length and the area bounded by the lines joining the points using an appropriate scale. **In this setting, only a mouse has been placed on the points of the image to measure a distance or an area without activation of**

menus, toolbars and control panels outside the medical image. For the reasons discussed above, Fenster teaches using the pointer device to place points and identify the measurement graphic and thus enabling the generation of the measurement graphics without requiring a user to define a type of graphic being generated. Thus, Fenster discloses defining one or more sets of sequential graphic modes by measuring distances or by measuring areas, receiving a medical image, displaying the medical image on a display device, receiving a first user input that indicates a selected location using a mouse pointer device on the medical image and a selected set of sequential graphic modes by mouse clicking, entering an initial mode of the selected set of sequential graphic modes by entering an initial point and executing a set of predefined graphic operations based on the initial mode while executing a set of predefined measurement operations based on the initial entered point. Fenster teaches performing a continuous repetition process of receiving a next sequential user input that indicates a next selected location/point on the medical image by the mouse clicking, entering a next sequential measuring/drawing mode for drawing lengths or measuring lengths/areas and executing a set of predefined drawing operations for measuring lengths/distances/areas and drawing the lines based on the next sequential measuring/drawing mode, if the next sequential user input is not a terminating input wherein the terminating input may be the entering of another measurement mode, or the closing of the window, or mouse clicking of a third point while measuring a distance between the first point and the second point. Fenster thus implicitly discloses terminating the repetition process if the next sequential user input is a terminating input such as another measurement mode.

When the pointer symbol is situated on the medical image, a measurement graphics is generated without actuation of one button of the mouse on menus, toolbars and control panels

because the pointer symbol is situated on the medical image while the measurement graphics is generated. The pointer symbol is not situated on menus, toolbars and control panels when the pointer symbol is situated on the medical image. Therefore, the actuation of the at least one button of the mouse enables the generation of the plurality of different measurement graphics including measuring the distance of two points on the medical image and the area encircled by three points on the medical image without actuating at least a button of the mouse when the pointer symbol of the mouse is situated on menus, toolbars and control panels, i.e., when the pointer symbol is subsequently moved away from the medical image after the generation of the measurement graphics. Fenster discloses enabling the generation of the plurality of different measurement graphics including the measurement of distance between two points on the medical image and the measurement of area encircled by more than two points on the medical image based only upon actuation of at least one button of said mouse when said pointer symbol is situated on said medical image without clicking on the mouse, even when the pointer symbol is moved outside the medical image and placed on the menus, toolbars, and control panels outside the medical image after the measurement graphics is generated. Fenster discloses enabling the generation of the plurality of different measurement graphics including the measurement of distance between two points on the medical image and the measurement of area encircled by more than two points on the medical image based only upon actuation of at least one button of said mouse when said pointer symbol is situated on said medical image without the actuation of the at least one button of the mouse when said pointer symbol is subsequently moved away from the medical image and placed on menus, toolbars, and control panels. Because the pointer symbol is placed on the medical image in the generation of the measurement graphics, the

measurement graphics are generated without the movement of the pointer symbol outside of the medical image while the measurement graphics is generated. In conclusion, Fenster discloses the claim limitation of enabling the generation of the plurality of different measurement graphics based only upon actuation of said at least one button of said mouse when said pointer symbol is situated on said medical image without actuation of said at least one button of said mouse when said pointer symbol is situated on menus, toolbars, and control panels such that the measurement graphics are generated without movement of said pointer symbol outside of said medical image.

It would have been obvious to one of ordinary skill in the art to have incorporated the Fenster's measurement method into Echerer's method of processing censored user interaction because Echerer implicitly suggests providing a menu-less graphical interface for display said medical image (*Echerer column 10, lines 1-10 wherein the image is solely displayed in a monitor without menus, toolbars and control panels while being manipulated by the pointing device of column 17-18*) because Echerer's medical image is not covered by the menus, toolbars and control panels (e.g., Echerer column 12, lines 20-30; column 13, lines 25-50) and providing a predefined interaction with said medical image, wherein said interaction is selected from a group of predefined interactions based on said status of each of said at least one button during the interval between multiple said position detection steps (e.g., Echerer column 16, lines 15-67; column 17, lines 1-67; column 18, lines 1-64) therefore this teaching suggesting an obvious modification of the Echerer's method for processing a radiograph.

One having the ordinary skill in the art would have been motivated to do this because it would have provided an alternative drawing option that does not rely on the menus, control panels and toolbars for GUI control (Fenster column 23 and Fig. 27).

It needs to be shown whether Echerer or Fenster *explicitly* discloses the claim limitation, “terminating the repetition process if the next sequential user input is a terminating input.” For the reasons given above, Echerer or Fenster at least implicitly discloses the claim limitation. Nevertheless, Wiedenhoefer explicitly discloses at column 18, lines 1-15 the claim limitation by pressing the right control button 8 to terminate the repetition process of the next sequential user input for measuring an angle. Wiedenhoefer discloses all other claim limitations set forth in the present claims.

It would have been obvious to have incorporated Wiedenhoefer’s control button to manually provide a means for indicating a completion of entering all of the points necessary for measuring an angle/distance/area of Echerer or Fenster because Echerer or Fenster’s system allows the automatic indication of a completion of entering all of the points necessary for measuring an angle/distance/area. When a start point and an end point have been entered in the distance measurement mode, the terminating step occurs after the entering of the end point. After four points have been entered in the angle measurement mode, the terminating step occurs after the entering of the fourth point. One having the ordinary skill in the art would have been motivated to provide a manual input for terminating the repetition process in order for the program to recognize and start to calculate the measurement distance/angle/area because it would have provided the measurement angle/distance/area by automatically recognizing the completion of entering all the necessary points for measuring the distance/angle/area (Wiedenhoefer column 18).

Re Claims 35:

Echerer, Fenster and Wiedenhofer further disclose the claimed limitation that the first user input corresponds to a mouse-click in combination with an identifier of the selected set (Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 10, lines 1-10 wherein Echerer teaches clicking to generate points on the medical image or switching to another measurement mode by clicking a button on a keyboard, Fenster column 19, column 23 and Wiedenhofer column 18).

Re Claims 36 and 46:

Echerer, Fenster and Wiedenhofer further disclose the claimed limitation that the identifier of the selected set is a pressing of a key or button corresponding to the selection of the set (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49 wherein Echerer teaches clicking to generate points on the medical image or switching to another measurement mode by clicking a button on a keyboard, column 15, lines 9-11; Fenster column 19, column 23 and Wiedenhofer column 18).

Re Claims 37 and 47:

Echerer, Fenster and Wiedenhofer further disclose the claimed limitation that the next sequential user input is a next sequential mouse-click (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11 wherein Echerer teaches

clicking to generate points on the medical image or switching to another measurement mode by clicking a button on a keyboard; Fenster column 19, column 23 and Wiedenhoefer column 18).

Re Claims 38:

Echerer, Fenster and Wiedenhoefer further disclose the claimed limitation that the terminating input corresponds to a selection of a previously selected location on the medical image (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11 wherein Echerer teaches a third clicking on the same second point in a third clicking still allows the generation of the distance between the first point and the second point; Fenster column 19, column 23 and Wiedenhoefer column 18).

Re Claims 39 and 48:

Echerer, Fenster and Wiedenhoefer further disclose the claimed limitation that the next sequential mode corresponds to a last sequential mode in the set of sequential graphic modes, subsequent next sequential modes are defined as repetitions of the last sequential mode (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11 wherein Echerer teaches successively clicking to generate points on the medical image or switching to another measurement mode by clicking a button on a keyboard; Fenster column 19, column 23 and Wiedenhoefer column 18).

Re Claims 40 and 49:

Echerer, Fenster and Wiedenhofer further disclose the claimed limitation that the one or more sets of sequential graphic modes include a set of measurement modes, and a set of drawing modes (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11 wherein Echerer teaches successively clicking to generate points on the medical image or switching to another measurement mode by clicking a button on a keyboard; Fenster column 19, column 23 and Wiedenhofer column 18).

Re Claims 41 and 50:

Echerer, Fenster and Wiedenhofer further disclose the claimed limitation that the set of measuring modes includes, in sequential order, point mode, line mode, angle mode, curve mode, and region mode (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11; Fenster column 19, column 23 and Wiedenhofer column 18).

Re Claims 42:

Echerer, Fenster and Wiedenhofer further disclose the claimed limitation that the set of drawing modes includes, in sequential order, freehand and poly-line mode (e.g., Echerer column 13, lines 12-49, column 15, lines 9-11; Fenster column 19, column 23 and Wiedenhofer column 18).

Re Claims 43 and 51:

Echerer, Fenster and Wiedenhofer further disclose the claimed limitation that the predefined graphic operations include displaying one or more measurements based on a current

graphic mode (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11; Fenster column 19, column 23 and Wiedenhoefer column 18).

Re Claims 44 and 52:

Echerer, Fenster and Wiedenhoefer further disclose the claimed limitation that the predefined graphic operation include extending a line from a last selected point on the image to a current location of a user-controlled cursor on the medical image (e.g., Echerer teaches at column 10, lines 1-10 “soft controls” such as buttons, slides, and adjustment tools using software and operated with a mouse. Echerer column 13, lines 12-49, column 15, lines 9-11; Fenster column 19, column 23 and Wiedenhoefer column 18).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jin-Cheng Wang whose telephone number is (571) 272-7665. The examiner can normally be reached on 8:00 - 6:30 (Mon-Thu).

If attempts to reach the examiner by telephone are unsuccessful, the examiner’s supervisor, Kee Tung can be reached on (571) 272-7794. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jin-Cheng Wang/
Primary Examiner, Art Unit 2628